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PHILADELPHIA:
THE ACADEMY OF NATURAL SCIENCES,
LOGAN SQUARE.

Entered at the Philadelphia Post-Office as Second-Class Matter.

ENTOMOLOGICAL NEWS

Published monthly, **excepting August and September,** in charge of the Entomological Section of the Academy of Natural Sciences, Philadelphia, and the American Entomological Society.

ANNUAL SUBSCRIPTION, $2.00 IN ADVANCE.

SINGLE COPIES 25 CENTS

Advertising Rates: Per inch, full width of page, single insertion, $1.00; a discount of ten per cent. on insertions of six months or over. No advertisement taken for less than $1.00—Cash in advance.

☞All remittances should be addressed to ENTOMOLOGICAL NEWS, Academy of Natural Sciences, Logan Square, Philadelphia, Pa. *All Checks and Money Orders to be made payable to the* ENTOMOLOGICAL NEWS.

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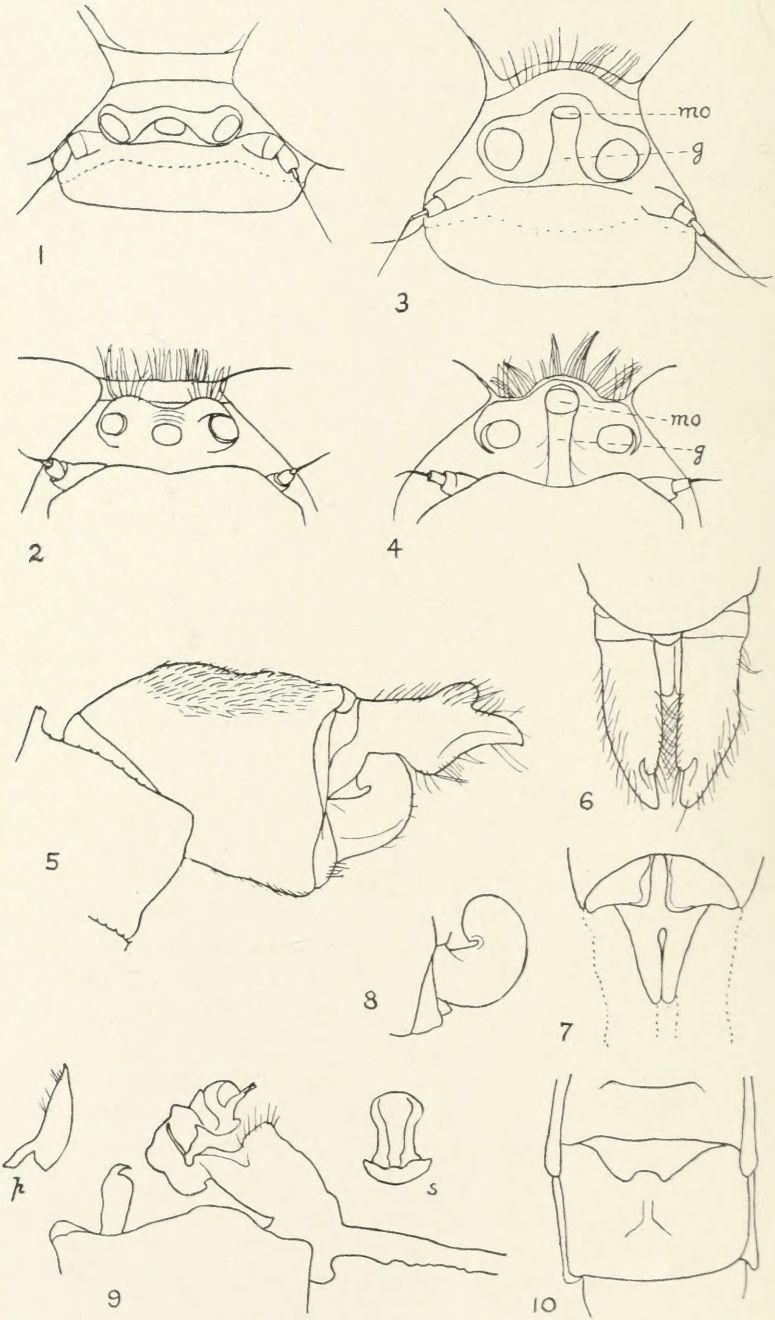


ERPETOGOMPHUS TRISTANI—CALVERT.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XXIII. JULY, 1912. No. 7.

CONTENTS:

Calvert—Studies on Costa Rican Odonata 289
Girault—Notes on the Hymenoptera Chalcidoidea..... 296
The Vote on Priority in Nomenclature. 300
McGregor—A new Mallophagan..... 305
Angell—Two new North American species of Necrophorus (Coleop.)..... 307
Fisher and Kirk—Cerambycidae from Harrisburg, Penna., and vicinity, with notes (Coleop.)..... 308
de la Torre Bueno—Nezara viridula Linne, an Hemipteron new to the Northeastern United States..... 316
Cockerell—A new Chalcidid from Guatemala (Hymen.)..... 318
Fall—A new Tetropium, two new Bruchides, with brief notes on other Coleoptera..... 320
Editorial 324
Headlee, et. al.—Strict Priority in Nomenclature—or Not?..... 325
Americans at the International Congress of Entomology 327
Cockerell—Food Plant of Dysdercus mimus Say..... 327
Entomological Investigation of Okefenokee Swamp..... 327
Porter—Collecting in Tropical America 328
Westcott—Scarcity of Early Insects... 328
Rohwer—One Reason for the Change of Names 329
Holloway—An Experiment on the Oviposition of a Hymenopterous Egg Parasite..... 329
Entomological Literature 331

Studies on Costa Rican Odonata.

IV. Erpetogomphus in Costa Rica, with Descriptions of a New Species Having Complex Structural Mating Adaptations.

By PHILIP P. CALVERT, PH.D., University of Pennsylvania, Philadelphia, Pa.

(Plate XVII)

The following summary of the geographical distribution of the genus *Erpetogomphus* was published in 1905 (Calvert, 1901-1908, p. 159): "A very characteristic genus of the present [Mexican-Central American] fauna. Eleven species are now known, ten of which have actually been found in Mexico or Central America. The eleventh, *E. compositus*, is known from Texas and Arizona, and will doubtless be found in Mexico; it has been reported from the Yellowstone and Oregon, which, with Ohio and Indiana (*E. designatus*), are the most northern known limits of *Erpetogomphus*. To the south, Guatemala is at present the known limit; there is, however, a very doubtful record from Brazil."

In 1907, in the supplementary part of the same volume (p. 398), it was possible to say: "The most southern locality for this genus certainly known is now San José, in Costa Rica, as

cited below under *E. elaps*"—a single male taken by the late Professor Biolley, in May, 1905, now in the British Museum of Natural History as part of the Godman-Salvin collection.

During the year which I spent in Costa Rica, I only once saw an insect which I thought might have been an *Erpetogomphus.* This was on the southern edge of Cartago, but I was unable to capture it, and repeated visits to the same spot on subsequent days failed to rediscover it. Its identity is therefore entirely uncertain.

In July, 1911, Professor J. Fidel Tristán, Senora Tristán and Senor C. Picado, went to Oricuajo, a farm belonging to Senor Santiago Guell, on the Pacific side of Costa Rica, between the Rivers Machuca and Jesus Maria, where they unit. Professor and Senor Tristán were here from July 5-10, and made a collection of Odonata which Professor Tristán subsequently sent to me. Among them was a male and a female *Erpetogomphus,* enclosed in the same envelope, so presumably taken pairing. This pair not only confirm the existence of the genus in Costa Rica, but are of an undescribed species which, in honor of my friend and companion on many a delightful excursion, I herewith describe as

Erpetogomphus tristani, n. sp. (Plate XVII).

♂ Vertex, clypeus, labrum, occiput and genae dark brown. Frons bright green, except for a superior transverse dark brown stripe in front of the antennae which is confluent in front of each eye with a narrower transverse dark brown stripe along the inferior margin. Labium, maxillae and bases of the mandibles pale yellow, but the apices of all brown or black. A nearly straight transverse ridge on the vertex behind the ocelli, forming a tubercle bearing some long dark hairs behind each lateral ocellus, but concealing only a small part of the occiput when the head is viewed from in front (Fig. 2). Hind margin of the occiput almost straight, curving slightly upward at each eye, with a row of moderately long dark hairs.

Fore and hind lobes of the prothorax pale green, the former tinged with pale brown on the sides. Middle lobe pale brown, a pair of submedian dorsal dots and a larger spot each side pale green.

Thorax (meso-metathorax) with the mid-dorsal carina, borders of the ante-alar sinus, a mid-dorsal and a humeral stripe, and stripes on the first and second lateral sutures and along the ventral margin of the metepimeron, dark maroon brown. The median brown stripe is

narrowed at the antealar sinus (where it is narrowly confluent with the upper end of the humeral stripe of each side) and still more so at the transverse anterior mesepisternal carina, in front of which it widens anteriorly and is confluent on the mesinfraepisterna with the lower end of each humeral stripe. The pale antehumeral stripe is bright green, is wider at both ends than at its middle, where it is about two-thirds as wide as the brown median stripe and half as wide as the brown humeral stripe at the same level. The brown humeral stripe is constricted to half its width at its upper end where, as well as at its lower end, it is narrowly confluent with the brown stripe of the first lateral suture. This latter is twice confluent in its uppermost fourth with the brown stripe of the second lateral suture, which in its turn is confluent above (very narrowly) and below with the metepimeral brown stripe. The pale color of the sides of the thorax is more yellowish than the pale antehumeral stripe and is wider in each of its three divisions than the brown stripe which bounds each division posteriorly. Inter-alar dorsal sclerites pale green. Pectus pale obscure yellowish.

Abdomen brown, darker on segments 3-8, marked with pale yellowish-green as follows: most of 1; the auricles and two (?) posterior spots, one lateral (the other dorsal?), on 2; a narrow mid-dorsal stripe or line beginning at the anterior end of each of segments 3-7 but not reaching the hind end of any of them; a spot on each side in the foremost fourth on 3 or sixth on 4-6 (or 7?). Segments 9 and 10 are of a more reddish-brown than those preceding and bear a greater number of delicate pale hairs.

Abdomen widest at segment 1 and again at the articulation of 9 and 10. A tuft of pale hairs on a brown spot at the hind margin of 1 where dorsal and lateral surfaces meet. Auricles on 2 well-developed, decidedly projecting, with about eight minute denticles on the posterior margin. Segments 7-9 successively shorter, 10 longer than 8 or 9 but shorter than 7. Hind margin of 9 angularly produced into a mid-dorsal posteriorly-directed process. The hind dorsal margin of 10 is rounded and produced into a small rounded median tubercle which fits between the superior appendages.

Genitalia of 2 (Fig. 9) black; anterior hamules shorter than the posterior, rounded and hooked at tip, posterior hamules tapering to the acute straight tips. Each of the two antero-lateral angles of the vesicle of the penis terminating in a lamellate process.

Superior appendages three-fifths as long as 10, pale green, blackish at extreme base and at apex, with many hairs half as long as, or longer than, each appendage is thick. In dorsal view (Fig. 6) almost straight and parallel, the posterior half of each obliquely truncated from the outer side inward (mesad) and backward (caudad); at two-

thirds length is a stout dorsal tooth on the inner (mesial) margin. In profile view (Fig. 5) each appendage at its base is almost half as high as the hind margin of 10 but contracts its height by one half on the ventral side of the proximal fifth; at one-half length is a strong tubercular ventral tooth directed ventrad, distad to this tooth the ventral edge is concave; the fourth sixth of the appendage's length on its dorsal edge is occupied by a stout tooth directed dorsad and caudad; from this tooth the thickness of the appendage gradually decreases to the apex which is obtuse and bent very slightly downward (ventrad). Viewed from below, each appendage has a ventral longitudinal carina in its proximal sixth and again in its distalf half.

Inferior appendage shining blackish brown, its hairs fewer and shorter than those of the superiors. Viewed in profile (Figs. 5, 8), it does not quite attain the level of the inferior tooth of the superiors; it is curved strongly dorsad, then cephalad and finally, at its apex, ventrad, decreasing gradually in thickness throughout its length. Viewed from below (Fig. 7), its width decreases from the base; it is divided into two branches from almost the base, the branches closely oppressed throughout and forming between them a deep ventral groove.

Femora dark brown, those of third legs redder, inner (lower) surface of first femora and a distal spot on inner surface of second pale green. Tibiae and tarsi black.

♀. Differs from the male as follows: Vertex with a deep median longitudinal groove on the posterior wall of which is situated the median ocellus; as a result, when the head is viewed from in front (Fig. 4), the median ocellus is above the level of the two lateral ocelli, and in dorsal view (Fig. 3) the median ocellus is completely posterior to the level of the other two. In the male, as in most Gomphinae, and indeed in Odonata generally, the median ocellus is below and at least not posterior to the level of the other two ocelli in these two views respectively (Figs. 2, 1). As a further result of the presence of this groove, the transverse ridge on the vertex behind the ocelli is produced in the middle dorsad and caudad as a marked convexity which conceals all of the occiput except its hind margin, when the head is viewed from in front. Dorsal surface of the occiput very much reduced antero-posteriorly, its hind margin strongly convex and fringed with dark hairs; posterior surface swollen in the middle, which is not the case in the male, and with a distinct socket on each side adjoining the compound eye. Front shallowly and widely grooved antero-posteriorly in the middle of its superior surface; this feature less marked in the male.

Mid-dorsal mesothoracic carina pale green; brown markings of the thorax paler, redder; green antehumeral stripe at mid-height half as wide as the brown mid-dorsal stripe.

Abdominal segment 2 with a mid-dorsal, and on each side a longitudinal, yellow stripe occupying the greater part of the length of the segment. Greatest width of the posterior half of the abdomen at the articulation of 8 and 9. Auricles on 2 very much smaller and not denticulated, as usual in this sex. Segments 7-10 successively shorter. Mid-dorsal posterior process of 9 shorter than in the male. Hind dorsal margin of 10 nearly straight, not produced. Eleventh segment a little shorter than the tenth, its tergite and sternites sub-equal. Terminal abdominal appendages as long as 10, pale brown, straight, conical, apices acute.

Vulvar lamina one-third as long as 9, its apical margin one-third as long as its base, shallowly concave (Fig. 10).

♂ ♀. Wings slightly smoky, tinged with faint yellow at the extreme base. Front wings with 14 (♂)-15 (♀) antenodals, 12-14 postnodals. Hind wings with 11 antenodals, 12-13 postnodals, anal triangle of ♂ 3-celled. Stigma dark brown.

Dimensions. Total length, ♂ 42, ♀ 44. Abdomen ♂ 31.5, ♀ 33.5. Hind wing, ♂ 28, ♀ 29. Costal edge of stigma, front wing ♂ 3, ♀ 3.5. Width of head ♂ 6, ♀ 6.3 mm.

Hab. Costa Rica, Oricuajo (Pacific side), July, 1911, by Prof. J. F. Tristán, 1 ♂, 1 ♀, now in the collection of the writer at the Academy of Natural Sciences of Philadelphia.

Type. The male above mentioned.

This pair show the following differences from the generic characters of *Erpetogomphus* as given in Biol. Centr.-Amer. Neur., pp. 146-147:

There are 9 (10 on the left side of the ♂) marginal cells on the front wings between M4 and Cu1 (short sector and first sector of the triangle) instead of 6-8 cells. I find in my notes, however, mention of a female *E. designatus* from Texas with 9-10 marginal cells.

There is but one row of cells in the anal and second cubital areas (postcostal area of de Selys) of the front wings from the base to beyond the level of the triangle; there are only two rows of cells at any point between Cu2 (second sector of the triangle) and the hind margin in the male, but there are three rows for three (right) or four (left) cells in the female. These variations were met in the Biol. Cent. Amer. material also.

While the arculus is at or proximal to the second *subcostal* antenodal in seven out of the eight wings, it is not necessarily at or proximal to the level of the second *costal* antenodal, as the second subcostal antenodal is not coincident with the second costal antenodal in six out of the eight wings, but distal thereto. This lack of coincidence is often to be seen in this genus.

The sixth (instead of the fifth) antenodal is thicker on the left front wing of the female.

The abdomen of the male is widest at segment 9.

Erpetogomphus tristani ♂ falls under rubric AA of the key to the species of this genus (*Biol. Centr.-Amer. Neur.*, p. 160) so far as the superior appendages of the male are concerned, but the face has distinct dark markings. It is also allied to *E. ophibolus* of rubric A in possessing a superior tooth on the same appendages. In possessing both a superior and an inferior tooth, both well-developed, and such a strongly recurved inferior appendage, it differs from all other described species of *Erpetogomphus.*

The female *tristani* falls under rubric BBB of the same key *l. c.*, p. 162) and in its occipital characters and brown antehumeral (+ humeral) stripe comes nearer to *diadophis* than to *designatus,* but differs from these and all other known species by the peculiar structure of the vertex, which deserves fuller mention.

Mr. Williamson (1899) first pointed out that in the Odonata Anisoptera, in pairing, the inferior appendage of the male rests on the top of the head of the female and the superior appendages of the male on the rear of the head of the female. He was able (1906) to make positive observations to this effect in the genus *Gomphus,* among others. Calvert (1906), in confirmation, figured the two sexes of *Aeshna constricta* [=*umbrosa,* E. M. Walker] in this position. There is no reason to think that the mating position in *Erpetogomphus* is different. In the above description and in the figures (Figs. 3, 4) of the vertex of the head of *E. tristani* female, mention is made of a deep median longitudinal groove (*g*), and of the great reduction of the dorsal surface of the occiput. On placing the head of the female and the hind end of the male abdomen side by side in the same field of the microscope, it is evident that the recurved terminal part of the inferior appendage of the male (Fig. 8) is sufficiently narrow transversely to be received into the median vertical groove of the female. It seems inevitable that the inferior appendage should fit into this groove when pairing takes place. It is also likely that the ventral tooth of each

superior appendage of the male is received into the socket on each side of the posterior surface of the female's occiput, and that the dorsal tooth of the same appendage is braced against her prothorax. *E. tristani* therefore furnishes one of the most complex structural mating adaptations hitherto noticed in the Anisoptera. In looking over the plates of de Selys & Hagen (1858) nothing so complicated is to be found in any species of this family figured therein.*

Literature Quoted.

Calvert, P. P. 1901-1908. Biologia Centrali-Americana. Insecta Odonata. London.

Id. 1906. Copulation of Odonata. Ent. News, XVII, pp. 148-150, pl. VII.

de Selys Longchamps, E. et. Hagen, H. A. 1858. Monographie des Gomphines. Bruxelles, Leipzig, Paris.

Walker, E. M. 1912. The North American Dragonflies of the Genus Aeshna. University of Toronto Studies. Biological Series, No. 11.

Williamson, E. B. 1899. A Note on Copulation among Odonata. Ent. News, X, pp. 42-43.

Williamson, E. B. 1906. Copulation of Odonata. Ent. News, XVII, pp. 143-148.

Explanation of Plate XVII.

All the figures are of *Erpetogomphus tristani* n. sp. and have been drawn with the aid of the compound miscroscope and camera lucida. The magnification is the same in all, x 12.

Figs. 1 and 2. Dorsal and anterior views respectively of the vertex and occiput of the male. The dotted line in 1 shows the boundary between green and black on the superior surface of the frons.

Figs. 3 and 4. The same of the female. *g*, the vertical groove, *mo*, median ocellus.

Fig. 5. Left profile view of the apex of the male abdomen.

Fig. 6. Dorsal view of the superior abdominal appendages of the male.

Fig. 7. Ventral view of the inferior abdominal appendage of the male. Dotted lines show the proximal parts of the superior appendages.

Fig. 8. Left profile view of the inferior abdominal appendage of the male.

Fig. 9. Right profile view of the genitalia of the second and third abdominal segments of the male. *p*, posterior hamule and *s*, sheath of the penis, separated from the rest, *p* in lateral, *s* in posterior view.

Fig. 10. Ventral view of the 9th, and adjoining parts of the 8th and 10th, abdominal segments of the female.

*Since this paper was written, Dr. E. M. Walker's superb monograph of the North American Aeshnas has appeared (1912), in which he discusses (pp. 39-42) and figures (Plate 2) the copulatory position of *Aeshna, Gomphus* and other Odonata.

Notes on the Hymenoptera Chalcidoidea.

By A. A. Girault, Brisbane, Queensland, Australia.

1. A New Trichogrammatid from the United States.

In the Transactions of the American Entomological Society, Volume XXXVII, 1911, pp. 2-6, pl. I, figs. 1-2, a new genus and species of the Chalcidoid family Trichogrammatidæ was described with the name *of Aphelinoidea semifuscipennis* Girault. Recent additions to this genus comprising four new species discovered in Australia lead me to review the group and I now find that in the material upon which was based the description of the type of the genus two distinct species were represented instead of but the one. This error came about very naturally by supposing the two distinct forms represented in the description of *semifuscipennis* to be the two sexes of that species. If the original description of the genus be consulted, it will be seen that the male was described as differing from the female by a very striking characteristic, a kind not usually sexual, namely the presence of a broad naked path across the fore wing. Later examination of one of the so-called males upon which the description was based (captured at Urbana, Illinois, July 27, 1910) led to the discovery that it was a female, evidenced by the fact that the genitalia could not be distinguished from that of the females of the genus, though the actual presence of an ovipositor could not be demonstrated. Nevertheless the reasoning stands thus:

(1) This specimen could not be distinguished structurally from the females of the other four species and its ovipositor was probably concealed within its valves, which were visible.

(2) Males of the genus with the exception of the two so-called of *semifuscipennis* are unknown (about forty specimens of the genus have been captured, all females).

(3) Secondary sexual characters in the family are usually confined to antennal structures (or some more fundamental change than that mentioned previously), and

(4) Differences in degree of wing fumation and arrangement of the discal ciliation are known to be specific characters

in this genus, while the secondary sexual characters remain unknown. That two species are represented by the material in question is thus so nearly certain that I do not hesitate at all, but forthwith describe the second American species of the genus.

Aphelinoidea plutella new species.

Aphelinoidea semifuscipennis Girault, *male*, in Girault *l. c.*

Female.—Similar to the type species of the genus excepting as already pointed out in the place cited. The specimen before me differs also in color, however, the whole of the thorax and head ochraceous not blackish, the base of the abdomen yellowish suffused with orange. Discal ciliation confined to the distal half of the fore wing and separated from the apex of the venation by a clear path which is naked; the fumation of the fore wing extends only to the end of the marginal vein. The proximal joint of the club is less than a third of the length of that segment.

Habitat: United States of America—Illinois (Centralia and Urbana).

Type: Accession No. 41,680, Illinois State Laboratory of Natural History, Urbana, Illinois, one female in xylol-balsam (mounted with the type female of *semifuscipennis* Girault).

There are now known six species of *Aphelinoidea,* four of them from Queensland, Australia, but as yet undescribed.

2. Anthemilla Girault Equals Parallelaptera Enock.

In the Proceedings of the Entomological Society of Washington, Volume XIII, 1911, pp. 185-187, a new genus and species of Mymaridæ is described from North America under the name *Anthemiella rex* Girault. This genus was thought to be different from any Mymarid genus then known, but it was recognized that it was closely allied with *Anthemus* Howard from which it differs markedly in venation only. I have been considerably surprised, therefore, in finding later on that the genus had already been described by Enock for *Parallelaptera panis* Enock (Transactions of the Entomological Society of London for the year 1909, December, p. 454, pl. XIII, figs. 1-5). But Enock, in the original description of the genus gives no characteristics of it and its position is unstated; we learn from the description, however, that the male antennæ

are 11-jointed, the only characteristic mentioned that would serve to show that the genus was different from *Anthemus* Howard. However, there now being no doubt as regards the identity of *Anthemiella* with *Parallelaptera,* the characteristics of the latter become more evident, since the former name was proposed especially for the reason that its type species bore a long marginal vein in the fore wing (about seven times longer than broad, in the type *Anthemus* only about twice longer than its width). Hence *Parallelaptera* Enock differs primarily from *Anthemus* Howard in bearing a longer marginal vein of the fore wing and in having 11-jointed antennæ in the male; secondarily in having longer funicle joints and nearly naked fore wings (as regards discal ciliation).

Parallelaptera rex (Girault) differs from *P. panis* in general coloration, being black marked with golden yellow, in having funicle joints 1 and 2 unequal and doubtless in other details but I am unable to detect these from the descriptions.

3. Some Necessary Corrections to Previous Papers on the Mymaridae.

(1). In the paper titled "A New Polynema from Mexico," published in Entomological News, Philadelphia, Volume XXII, October, 1911, p. 358, last line *female* should read *male.** This paper describes *Polynema aspidioti* Girault.

(2). In the paper titled "Descriptions of North American Mymaridae with Synonymic and Other Notes on Described Genera and Species," published in the *Transactions of the American Entomological Society,* Philadelphia, Volume XXXVII, pp. 253-324, the following:

Page 278, line 21, *Anthemis* read *Anthemus.*

Page 284, line 10, *nigellus* read *nigrellus.*

Page 291, paragraph 8—In regard to *Anagrus columbi* Perkins, I should state that I have seen the type or at least original specimen which is mounted in balsam and in the collections of the Experiment Station of the Hawaiian Sugar Planters' Association at Honolulu; an examination of it does not lead me to change the opinion concerning its status as expressed in this paragraph.

Page 300, line 4, *howardii* read *striaticorne.*

Page 301, lines 10 and 29, *or* read *on.*

Page 308, line 5, *consobinus* read *consobrinus.*

Page 319, line 26, *second* read *first.*

[* In Mr. Girault's MS. the word is *female*, as was printed in the News.—Ed.]

Page 323, in the added list of names *Anaphes pratensis* Foerster is erroneously omitted, subsequently found to occur in North America. *Camptoptera clavata* Provancher should have been omitted as later it was found to belong to a different group of the Hymenoptera.

Page 324, line 6, *Discopus* read *Dicopus*. The *longipes* mentioned in line 9 is a *Polynema*. The three species in lines 5, 6 and 7 have now been described and are valid.

Unfortunately the publication of this paper was somewhat delayed so that other papers which should have followed it in point of time appeared at the same time or even somewhat earlier; this state of affairs causes a few nomenclatorial incongruities, none of which, however, are of much consequence. The three papers on Mymaridae published by myself in ENTOMOLOGICAL NEWS for October, 1911, the two in the *Proceedings of the Entomological Society of Washington,* Volume XIII, 1911 (pp. 120-123 and 185-187), the one appearing in the *Journal of the New York Entomological Society,* September, 1911 (and the one on *Stephanodes psecas* Girault to appear later in the same journal but which should have appeared before the September article), and the article appearing in the *Archiv für Naturgeschichte,* Berlin, 1911, pp. 119-140, should all have been published later than the above paper.

4. NECESSARY CORRECTIONS TO SOME OTHER PUBLISHED PAPERS ON THE CHALCIDOIDEA.

(1). In the paper entitled "Synonymic and Descriptive Notes on the Hymenoptera Chalcidoidea with Descriptions of Several New Genera and Species," published in the *Archiv für Naturgeschichte,* Berlin, 1911, the following errors occurred:

Page 119, after the paragraph on *Uriella rufipes* the family heading *Eulophidae* was omitted.

The footnote signal 2 should be in the next line after *Ashmead.*

Page 121, line 8, *larg* should be *long.*

Page 128, line 4, insert the word *four* before *male.*

Page 130, line 29, *Uscanagtammatella* should read *Trichogrammatella.*

Page 139, line 41, insert *and* between *color* and *wings.*

(2). In the paper published in the *Canadian Entomologist* for 1911, pp. 346-354, 370-377 and following, these typographical errors occurred:

Page 346, line 5, insert *of* after *subgenus.*

Page 351, line 1 of footnote, *the* read *this.*

Page 375, line 6 from bottom, *Perovea* read *Peronea.*

Page 376, line 7, *Semeotellus* read *Semiotellus.*

Lines 11 and 12, *Mason* read *Nason.*

Line 9, the semicolon after 1897 should be omitted and the word *and* inserted.

The Vote on Priority in Nomenclature.

The Editorial in the NEWS for March, 1912, page 128, called attention to a vote taken among the zoologists of Denmark, Finland, Norway and Sweden, as to their preferences on the question of the strict application of the law of priority in nomenclature, and stated that the NEWS would be glad to receive and print the votes of American entomologists and zoologists on the same alternatives as were submitted to the Scandinavian voters.

Some discussion of the question appeared in our issues for April (pages 181-182) and May (pages 226-228) and Professor J. Chester Bradley sent us the results of a vote taken in the Entomological Laboratory of Cornell University. The total number of ballots received was very small, however, so that we sent out postal cards to the working entomologists of North America with a statement of the two Scandinavian alternatives (in order that the vote here might be strictly comparable with that taken on the other side of the Atlantic) and a request for a vote on them.

The list of those to whom these cards were sent was compiled from the lists of American entomological contributors to the journals of the last two years, especially the *News,* the *Transactions of the American Entomological Society, The Canadian Entomologist,* the *Proceedings of the Entomological Society of Washington,* the *Journal of Economic Entomology, Psyche,* the *Journal of the New York Entomological Society,* the *Annals of the Entomological Society of America,* the *Reports of the Entomological Society of Ontario,* and the publications of the Bureau of Entomology, United States Department of Agriculture. About 400 cards were sent out to all of the authors on these lists whose present addresses could be ascertained. As announced in the June number, page 270, we print below the names of those from whom votes have been received.

To complete the bibliographical references to this question, the editorial in the May NEWS, page 224, and the discussion by a number of writers in those for June, pages 271-276, and July, pages 325-327, may be mentioned.

A. The following vote that *the law of priority should be strictly applied in all cases*:

J. F. Abbott,

A. C. Baker, C. F. Baker, E. D. Ball, N. Banks, H. G. Barber, W. Barnes, H. E. Burke, A. Busck,

A. N. Caudell, F. H. Chittenden, G. C. Crampton, V. L. Clemence, A. J. Cook, E. N. Cory, A. Cosens, J. C. Crawford, R. P. Currie,

W. M. Davidson, W. T. Davis, H. G. Dyar,

C. R. Ely, G. P. Engelhardt,

E. P. Felt, A. Fenyes, C. H. Fernald, H. T. Fernald, W. J. Fox (1), G. H. French, D. T. Fullaway,

A. B. Gahan (2), W. J. Gerhard, C. P. Gillette, J. A. Grossbeck, C. F. Groth,

H. S. Harbeck, R. W. Harned, C. A. Hart, M. Hebard (3), O. Heidemann, W. J. Holland, C. W. Hooker, W. A. Hooker, V. A. Huard, J. A. Hyslop,

P. R. Jones,

W. D. Kearfott, W. A. Kepner, G. B. King, F. Knab, R. E. Kunze, P. Laurent, C. W. Leng, F. E. Lutz (4),

F. R. Mason, I. Matausch, J. McDunnough (5), L. W. Mengel, C. W. Metz,

L. J. Nickels, S. D. Nixon, A. H. Norton, F. W. Nunenmacher,

W. D. Pierce (6), H. Pinkus, C. R. Plunkett, C. L. Pollard, H. S. Pratt,

A. L. Quaintance,

P. Rau, G. S. Reeves (7), J. A. G. Rehn (8), C. Robertson, S. A. Rohwer, H. M. Russell,

G. E. Sanders, P. A. Schroers (9), E. W. Scott, H. C. Severin, F. L. Simanton, J. M. Swaine, M. H. Swenk, L. W. Swett,

J. K. Thibault, Jr., P. H. Timberlake, E. G. Titus,

R. A. Vickery, H. L. Viereck,

J. L. Webb, G. P. Weldon, C. Wellman, A. B. Wolcott, F. H. Wolley Dod, C. W. Woodworth,

J. F. Zimmer.

Total, 95.

The following qualifications or comments were appended to the ballots numbered in parentheses above:

(1) in view of the fact that there are no fixed rules for the carrying out of the other proposition.

(2) where the synonymy is not open to question.

(3) subject to the ruling of the International Entomological Congress.

(4) The prior names will be "generally used" some day if A be followed.

(5) It appears to me that the muddle in nomenclature is largely due to the slipshod revisions of the last 20 or 30 years, and the sooner the Law of Priority is *strictly* applied, the sooner the trouble will cease. I even strongly advocate the 'first species' principle in establishing generic types. Clause B would at once bring in the personal equation in the application of the words "most important."

(6) This proposition [B] is full of danger. I could not vote for such a proposition without knowing what was intended.

(7) provided the existing uncertainty as to what constitutes priority can be removed, *e. g.*, Meigen's 1800 paper.

(8) In voting I wish to record my adherence to the International Code.

(9) It [A] is the only method that offers a chance of a uniformity of opinion. The second would lead to endless discussions and controversies.

B. The following vote *against the strict application of the law of priority in all cases and express the desire that the most important and generally used names should be protected against any change on nomenclatural grounds.*

C. C. Adams, C. F. Adams, C. N. Ainslie, J. M. Aldrich, C. P. Alexander, G. G. Atwood,

C. J. S. Bethune (1), F. C. Bishopp (2), S. C. Bishop, F. E. Blaisdell, Sr. (2a), W. S. Blatchley, D. Bodine, F. C. Bowditch, J. C. Bradley, A. F. Braun, H. H. Brehme, C. S. Brimley, W. E. Britton, F. E. Brooks, C. T. Brues, L. Bruner.

L. Caesar, P. P. Calvert, T. L. Casey (3), D. M. Castle, G. Chagnon, J. W. Chapman, C. W. Collins, J. H. Comstock, W. P. Comstock (4), I. J. Condit, E. C. Cotton (5), E. T. Cresson, E. T. Cresson, Jr., N. Criddle, C. R. Crosby,

V. A. E. Daecke, A. Davidson, J. J. Davis, H. Dean, E. L. Dickerson, W. G. Dietz, G. Dimmock, R. W. Doane, S. B. Doten, R. P. Dow,

I. M. Eliot, M. J. Elrod, G. C. Embody, H. Engle, J. D. Evans, H. E. Ewing,

H. C. Fall, W. L. W. Field, Adele M. Fielde, J. W. Folsom, S. A. Forbes, W. T. M. Forbes (6), S. W. Foster, H. Fox, H. J. Franklin, C. A. Frost, W. D. Funkhouser,

J. H. Gerould, A. Gibson, W. H. Goodwin, H. A. Gossard (7), E. L. Graef, S. Graenicher, F. Grinnell, Jr.,

J. C. Hambleton, A. G. Hammar, W. H. Harrington, J. R. Haskin, T. J. Headlee, J. L. Healy, E. F. Heath (8), R. W. Hegner, S. Henshaw, G. W. Herrick, P. H. Hertzog, C. G. Hewitt, M. M. High, W. E. Hinds, E. F. Hitchings, H. E. Hodgkiss, T. E. Holloway, R. Hopping, C. O. Houghton, L. O. Howard (9), S. J. Hunter, W. D. Hunter,

O. A. Johannsen, C. W. Johnson (10), F. M. Jones,

E. O. G. Kelly, T. Kincaid, V. King, W. V. King (11), W. Knaus, C. Liebeck, H. W. Lohrenz, J. H. Lovell, C. S. Ludlow,

A. D. MacGillivray, P. B. Mann (11a), W. M. Mann, C. L. Marlatt, F. Marloff, H. O. Marsh, W. S. Marshall, R. Matheson, W. L. McAtee, J. F. McClendon, F. A. McDermott, E. P. Meiners, Z. P. Metcalf, J. T. Monell, A. H. Morgan, A. W. Morrill, M. E. Murtfeldt, R. A. Muttkowski,

W. A. Nason, J. G. Needham, J. A. Nelson, H. H. Newcomb, W. W. Newcomb, E. J. Newcomer, W. Newell,

O. W. Oestlund, W. C. O'Kane, C. E. Olsen, H. Osborn (11b), R. C. Osburn,

G. H. Parker, P. J. Parrott, E. M. Patch, R. F. Pearsall (12), A. Petrunkevitch, E. F. Phillips, W. J. Phillips, C. V. Piper, C. H. Popenoe, P. B. Powell,

H. D. Reed, W. Reiff, W. A. Riley, C. H. Roberts, D. M. Rogers, R. R. Rowley,

J. G. Sanders (13), C. Schaeffer, W. J. Schoene, E. A. Schwarz, L. L. Scott, V. E. Shelford (14), A. F. Shull, C. A. Shull (15), H. Skinner, A. T. Slosson, H. E. Smith, P. E. Smith, E. A. Smythe, Jr., T. E. Snyder, C. G. Soule, H. A. Surface,

Y. H. Tsou, E. S. Tucker, C. H. Turner,

P. R. Uhler, F. W. Urich,

D. L. Van Dine, E. P. Van Duzee (16),

B. H. Walden, E. M. Walker, L. B. Walton (17), W. R. Walton, F. M. Webster, R. L. Webster, A. J. Weidt, O. S. Westcott, W. M. Wheeler, H. F. Wickham, F. X. Williams, S. W. Williston, H. F. Wilson (18), G. N. Wolcott, H. P. Wood, A. H. Wright, W. G. Wright (19),

W. W. Yothers,

Total, 191.

The following qualifications or comments were appended to the B ballots, as numbered in parentheses above:

(1) Any name in general use for, say, 25 years should not be changed

(2) I should prefer to vote for a proposition between A and B, *i. e.*, that the Law of Priority should be generally applied especially when there is any dispute as to the name to be adopted.

(2a) Any modification to be controlled by a committee and care taken to avoid any injudicious or unscientific tendencies.

(3) provided they may have been the only names used during a period continuously of 60 years or more succeeding the epoch of the first comprehensive paper in which they were employed in what may have been a new sense. P. S. In other words if a name has not been rectified or challenged in 60 years it should stand permanently.

(4) I concur with the statement of Mr. J. C. Bradley, Ent. News, vol. xxiii. pp. 226-227.

(5) General use for several years should count for more than priority.

(6) also names of secondary importance so far as established by general usage.

(7) Whole matter should be determined by Committee of International Congress of Entomologists and names chosen by Committee should be adhered to unchangeably.

(8) Absurd. Leads to endless confusion to no practical end [appended to crossed out alternative A].

(9) but believes that the rulings of the Committee on Zoological Nomenclature of the International Zoological Congress should be adopted universally even if they hold for strict priority.

(10) Meigen's first paper is the cause of my conviction.

(11) Provided a rational method is adopted.

(11a) unless for special good reasons.

(11b) but so safeguarded that it will apply only in most essential cases and with very general consent.

(12) and would suggest that where the type is in existence, the author's name be retained for it in all cases, except his name be preoccupied in the same family group.

(13) by decision of a committee (general), such fixed names to be indicated by a hyphen or + or × signs, viz. *Pontia* × *rapae, Pontia* + *rapae.*

(14) provided that generally used names be established by majority vote at international congresses.

(15) However, where names are not long time-honored, generally used names, I *do* favor the Law of Priority as giving us the only permanent basis of nomenclature.

(16) Would vote A if certain 'freak' books could be eliminated.

(17) as determined by a general committee on nomenclature.

(18) Provided three or more specialists of any group have an opportunity afforded them to place before the committee such proof as they may see fit. The opinions of all workers should be solicited.

(19) No generally used old name to be changed nor new name (as of a new species) used without approval of supervising board.

Prof. T. D. A. Cockerell declines to vote for either A or B but votes: That the rules should be so amended as to reduce nomenclatural changes to a minimum (many of the changes are not due to prior- as such but to special methods of selecting generic types, etc, also, especially by throwing out genera without species designated or implied, by enforcing the rule that generic names are not homonyms unless spelled alike, many changes will be avoided). When all has been done that is possible in this way, it may be proper to consider whether a certain number of names should not be conserved by special international vote.

A New Mallophagan.

By E. A. McGregor, U. S. Bureau of Entomology, Batesburg, S. Carolina.

Several male specimens of a somewhat curious *Colpocephalum* were taken from the screech owl *Otus asio maccalli* at Dallas, Texas, by the writer in January of 1911. Professor Kellogg validated my convictions that the species was new to science in a communication in part as follows: "* * * but it has such produced and amputated temples and such marked differences in the thorax, that it cannot be put with *C. subpachygaster* * * *." The latter species is a well distributed owl *Colpocephalum* with broad head and broad abdomen and is perhaps closest to the present species.

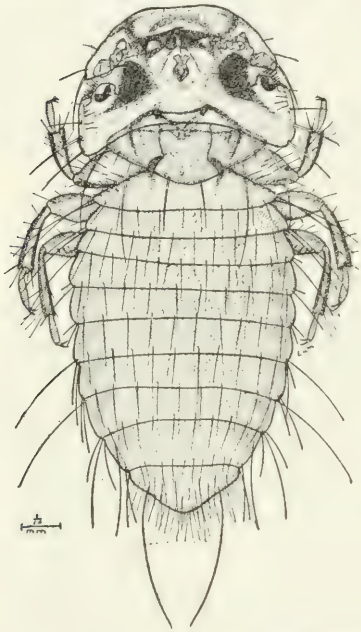
Colpocephalum painei sp. nov.

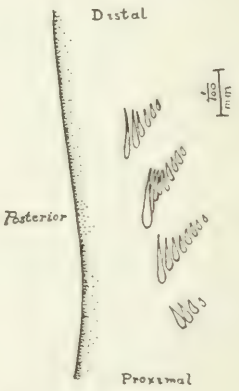
Male.—Length 1.30 mm., width across abdomen .57 mm. Pale yellow in color with no pronounced markings.

Head. Length .39 mm., width .53 mm., being thus almost half again as wide as long. Front blunt, very slightly emarginate with no trace of hairs or spines. One long, strong hair on the very prominent angle in front of the deep ocular emargination and two shorter, weaker hairs on the sides before it. Neither the antennæ nor the palpi normally projecting. The eye is large, prominent, with a large, black fleck. A narrow, chestnut-yellow, bow-shaped clypeal band. Ocular blotches deep-chestnut, inflated-comma-shaped. The ocular fringe extends to the angle of the temples and is continued onto the latter by a line of four or five short bristles. Temples nearly parallel to one another with two long, very strong hairs near the hinder angle preceded by a shorter, weaker one. Occiput strongly concave, for the most part pale, with a short, transverse, bow-shaped bar connecting laterally with the enlarged ends of two bands which arch obliquely backward to the occipital margin. Occipital bands wanting.

Thorax. Length .25 mm., width .52 mm. Prothorax semi-lenticular, the anterior margin rounded, while the posterior margin is much more angulated. The latter bears a long hair at each lateral angle, another pair about half way to the middle, and a pair of somewhat shorter hairs near the rounded median angle. The transverse bar is narrow and indistinct, and the curving chestnut-yellow, longitudinal lines beyond the ends are clearly defined and are continuous with the oblique bands of the occiput. A small, crescent-shaped marking occurs on each side at the junction of the pro- and metathoracic margins and encroaches slightly on the latter segment. Metathorax short, in shape that of an anteriorly emarginated trapezium, with flatly-convex pos-

terior margin which bears a row of about ten longish hairs, and with two long hairs at each posterior lateral angle. The lateral margin bears about six short hairs. Legs pale, but with darker marginal markings which are sharply defined on all the tibiae. Numerous hairs occur on the femora and tibiae, most of which are disposed on the outer edge. A series of four parallel combs on each of the hind femora near their posterior margin. These consist of short, attenuate spines placed side by side of which the first comb has three, the second eight, the third nine, and the distal six.





Colpocephalum painei n. sp.

FIG. 1.—Dorsal view, entire insect. FIG. 2.—Combs on dorsal surface, hind femur.

Abdomen. Ovate, broad in front, abruptly pointed behind. Length .75 mm. Two hairs at the posterior angles of segments one, two, three, four and eight; three hairs at the posterior angles of five, six and seven. Of the above the following hairs are very long, two at segment one, one at segments two, five, six and seven. The terminal segment is triangular, is supplied with two very long bristles and many fine, shortish hairs. Each of the remaining segments are supplied posteriorly with a row of about ten longish hairs.

Type in Museum, Leland Stanford, Jr., University.

Named for Mr. John H. Paine who, as junior author with Prof. V. L. Kellogg, has described a number of species of this group.

Two New North American Species of Necrophorus (Coleop.).

By John W. Angell, New York City.

A study of the North American forms of the genus *Necrophorus* in my cabinet has resulted in the discovery of two species new to our fauna, one from Tuba, Arizona, and the other from California. These species may be described as follows:

Necrophorus mysticallis sp. nov.

Form moderately robust, black, shining, epipleurae at base and antennal club orange red, tarsi more or less fuscous. Head coarsely punctured, lateral impressions deep. Thorax oboval, widest at anterior third, narrowed behind, anterior angles broadly rounded, sides behind anterior third only very slightly sinuate, base arcuate and broadly margined, finely and densely punctured, disk sparsely punctured, median impression linear and strongly marked. Elytra not wider than thorax, slightly longer than wide, feebly divergent posteriorly, apex squarely truncate, surface shining, coarsely punctate and wrinkled, body beneath shining, sparsely and finely punctate, middle and posterior tibiae slender at base, broadened at apex, posterior tibiae arcuate.

Length 25 mm.

Described from a single male in my cabinet taken in Tuba, Arizona, by Mr. Woodgate. This species resembles an immaculate example of *N. carolinus* but is more robust, more shining, and the thorax is more finely punctured.

Necrophorus grandior sp. nov.

Form moderately elongate, black, epipleurae and median spot on elytra, orange red. Head coarsely punctured, lateral impressions moderately deep. Antennae black. Thorax transversely cordate, broader than long, apex truncate, broadly rounded in front, very slightly sinuate behind, and broadly rounded at base, sides broadly margined, finely punctate, anterior transverse line only moderately impressed, median line feeble. Elytra narrower at base than thorax, gradually wider posteriorly, sides slightly sinuate, base sinuately truncate, surface coarsely and densely punctate with two faintly marked costate lines on each elytron. A single orange red spot at basal third of each elytron. Abdomen densely punctured above and below. Middle and posterior tibiae gradually broader to tip, not arcuate.

Length 26 to 30 mm.

Described from two males of my cabinet, labelled "California" without more definite locality. Readily distinguished from *N. guttula* by the larger and more oval thorax, the lateral margins of which are as wide as the basal margins, and also by the less strongly impressed transverse line.

Cerambycidae from Harrisburg, Pennsylvania, and vicinity, with notes (Coleop.).*

By W. S. Fisher and H. B. Kirk, Harrisburg, Pa.

Having accumulated notes and data on collecting and rearing longhorn beetles, we give the results, thinking they may be of some interest to others.

The region about Harrisburg is quite variable, affording a great variety of food plants. Here and there are small groves of dying hickory trees which are ideal for night collecting, and on the mountain sides along the edge of woods are patches of wild hydrangea, rose and Jersey tea. When these plants are in bloom, they are visited by a number of species, especially the tribe Lepturini, and on a warm day the blossoms are swarming with insects feeding on the pollen. Near Harrisburg a pipe line has been laid across the mountains and the trees have been cut down for a number of feet on each side of this line, leaving an open space through the dense woods. A great many insects are attracted to this open space from the surrounding woodlands and are found during the warm part of the day swarming over the blossoms, or nesting on the upper side of the leaves, apparently indulging in the luxury of a sun bath.

A great deal of our collecting was done in the usual way, by sweeping flowers and beating dead branches, but the most interesting was the collecting at night with an acetylene light. A number of the species that are seldom taken during the day time, and which seem apparently rare, were secured in numbers by this method of collecting. Some of the species were found running up and down the tree trunks, while others were ovipositing in the dying trees. When the light was thrown on the tree trunks, the insects on them would remain motionless until the light was removed, when a slight touch would cause them to fall into the cyanide bottle.

During the early months when the ground was still frozen

*Contributions from the Division of Zoology, Dept. of Agriculture, Harrisburg, Pa.

and very few insects could be collected, we devoted most of our time collecting the dead limbs, twigs and sections of trees that were infested, and placed them in cages for rearing. By collecting material from a variety of trees in different localities, we were able to get a number of interesting rearing notes. So far, most of our rearing has been from material from deciduous trees.

In all cases, unless otherwise stated, the material was collected by the authors.

ORTHOSOMA Serv.

brunneum Forst.—Highspire, VIII—17—07 on oak stump; Inglenook, VIII—16—08 in rotten log.

PRIONUS Geoff.

laticollis Dru.—Harrisburg, VII—23—08, VII—15—10; only females taken at night; ovipositing in oak trees.

imbricornis Linn.—Heckton Mills, VI—22—10 on chestnut tree.

TRAGOSOMA Serv.

harrisii Lec.—Carlisle Jc., VII—4—08 flying along pipe line.

SPHENOSTETHUS Hald.

taslei Buq.—Harrisburg, VIII—1909 on beech tree (Coll. by A. B. Champlain).

CRIOCEPHALUS Muls.

agrestis Kirby—Harrisburg, VII—18—08 flying.

obsoletus Rand.—Harrisburg, VII—7—10 flying along street in city; VI—20—11 (J. A. Smith).

SMODICUM Hald.

cucujiforme Say.—Harrisburg, VII—6 to VII—20 on fallen oak trees at night and under bark during the day time; Highspire, VII—10—09, beating.

PHYSOCNEMUM Hald.

brevilineum Say.—New Cumberland, VII—4 to VII—11; West Fairview, VII—2—10, running on trunks of living elm trees during the day time; Harrisburg, V—7—10, pupa under bark of fallen elm tree.

RHOPALOPUS Muls.

sanguinicollis Horn.—Heckton Mills, VI—21—09, on pitch pine.

HYLOTRUPES Serv.

bajulus Linn.—Carlisle Jc., VI—27—09, on pine log; Highspire, V—30—06, on hickory; Harrisburg, VII—19—07; Mechanicsburg, VI—20—08.

ligneus Fab.—Mount Gretna, VII—20—06, on cedar stump.

PHYMATODES Muls.

variabilis Fab.—Harrisburg, VI—12—08; New Cumberland, VI—4—08; Heckton Mills, VI—15—09; Highspire, VI—15—09, on poplar tree.

amoenus Say.—Harrisburg, V—30—09; Highspire, VI—19—09; Camphill, V—31—09; reared in numbers from dead wild grape collected in various localities.

varius Fab.—Heckton Mills, V—31—09, beating.

CALLIDIUM Fab.

aereum Newm.—Carlisle Jc., VI—22—09, on chestnut shoots.

CHION Newm.

cinctus Dru.—Harrisburg, VI—18—07, at arc light.

EBURIA Serv.

quadrigeminata Say—Harrisburg, VII—15 to VIII—4, on oak tree at night; Craighead, VII—18—08, on hickory tree; Highspire, VII—27—07.

ELAPHIDION Serv.

mucronatum Fab.—Harrisburg, VI—24 to VII—15, on hickory trees at night; Perdix, V—2—11; reared from walnut, poison ivy and wild grape.

incertum Newm.—Heckton Mills, VI—25—08; Harrisburg, VII—11 to VIII—19, in numbers on mulberry tree, and frequently on hickory at night. Found breeding abundantly in mulberry tree.

villosum Fab.—In all localities; common. Frequently injurious to fruit and shade trees; reared from wild grape.

unicolor Rand.—Harrisburg, VII—21—09, on mulberry; Heckton Mills, VI—25—08, on wild grape; Highspire, VI—30—05.

TYLONOTUS Hald.

bimaculatus Hald.—Harrisburg, VI—20 to VII—30, on ash trees at night.

HETERACHTHES Newm.

quadrimaculatus Newm.—Harrisburg, VII—12—09, on hickory tree at night; Rockville, VII—4—09; reared from hickory.

PHYTON Newm.

pallidum Say—Lemoyne, reared from hackberry (A. B. Champlain).

OBRIUM Serv.

rufulum Gahan.—Highspire, VII—11—08, beating; Lemoyne, reared from dead ash twigs.

MOLORCHUS Fab.

bimaculatus Say—Rockville, V—6—09; Camphill, V—31—09; Lemoyne, III—12—11, adult cut from dead hackberry; Camphill, XI—3—11, adult cut from red bud.

RHOPALOPHORA Serv.

longipes Say—Rockville, VII—4—09; Harrisburg, VII—9—10, on flowers.

PURPURICENUS Serv.

humeralis Fab.—Carlisle Jc., VI—27—09, VII—4—08; Harrisburg, V—3—08, VI—25—09; Highspire, VII—4—07, female ovipositing in oak stump.

axillaris Hald.—Carlisle Jc., VII—4—08.

BATYLE Thom.

suturalis Say—In all localities on flowers; common.

CYLLENE Newm.

caryae Gahan.—In all localities from III—25 to V—10, on wood piles; Lemoyne, reared from wild grape.

robiniae Forst.—In all localities from VIII to X; common on golden rod flowers; breeds in locust.

CALLOIDES Lec.

nobilis Say—Highspire, VI—6—08, on cultivated grape; Carlisle Jc., VI—27—09.

ARHOPALUS Serv.

fulminans Fab.—Carlisle Jc., VI—27—09; Harrisburg, VI—12—09, flying along street, VII—13—09, at arc light; Rockville, VII—23—10, on fallen oak tree at night.

XYLOTRECHUS Chev.

colonus Fab.—In all localities, common; reared from hickory bark, elm, thorn and other trees.

sagittatus Germ.—Mount Hope, VIII—27—07, flying.

quadrimaculatus Hald.—Inglenook, VI—20—09; Highspire, reared from Norway maple limb.

undulatus Say—Inglenook, VI—20—09.

nitidus Horn—Highspire, VI—19—10; Inglenook, VI—11—11.

NEOCLYTUS Thom.

scutellaris Oliv.—Harrisburg, VII—15—10, on oak tree.

luscus Fab.—Harrisburg, VII—7—08, on hickory trees at night; reared from hickory limbs.

caprae Say—Highspire, V—8—09; Lemoyne, III—29 to IV—23, on ash wood pile.

erythrocephalus Fab.—In all localities, common, breeds in all kind of wood.

longipes Kirby.—Lemoyne, IV—17—09, on ash wood pile.

CLYTANTHUS Thom.

ruricola Oliv.—Perdix, V—27—11, VI—1—11; Inglenook, V—28 to VI—26; Carlisle Jc., VI—24—10; on flowers.

albofasciatus Lap.—Camphill, X—1—10, running on rotten log; Lemoyne, Harrisburg, reared from wild grape.

CYRTOPHORUS Lec.

verrucosus Oliv.—Highspire, V—3—08; Rockville, IV—16—10; Harrisburg, XII—18—09, hibernating in dead limb.

EUDERCES Lec.

picipes Fab.—In all localities on flowers; common.

DISTENIA Serv.

undata Oliv.—Harrisburg, VII—7 to VII—15, on hickory trees at night.

DESMOCERUS Serv.

palliatus Forst.—In all localities on elder; common.

NECYDALIS Linn.

mellitus Say.—Harrisburg, VI—13—08; New Cumberland, VI—30—09 (Coll. by W. R. Walton).

ENCYCLOPS Newm.

caeruleus Say.—Inglenook, V—28—11, on flowers; Camphill, V—31—09, on hickory tree (Champlain).

RHAGIUM Fab.

lineatum Oliv.—Rockville, II—22—09, under pine bark.

CENTRODERA Lec.

decolorata Harr.—Carlisle Jc., VII—4—08, on flowers of Jersey tea.

picta Hald.—Inglenook, VI—11—11.

TOXOTUS Serv.

trivittatus Say.—Heckton Mills, V—31—09, on hackberry foliage; in all localities on flowers, V—26 to VI—21.

cylindricollis Say.—Inglenook, VI—17—11.

cinnamopterus Rand.—Camphill, V—31—09 (Champlain).

PACHYTA Serv.

monticola Rand.—Carlisle Jc., VII—4—08, on flowers.

ACMAEOPS Lec.

directa Newm.—In all localities on flowers; common.

GAUROTES Lec.

cyanipennis Say.—In all localities, common; found in numbers ovipositing in fallen cherry tree.

BELLAMIRA Lec.

scalaris Say.—Inglenook, VI—9—11; Harrisburg, VI—12—11; Perdix, VI—10 to VII—1 on flowers.

STRANGALIA Serv.

famelica Newm.—In all localities on flowers; common.

acuminata Oliv.—Harrisburg, VI—17 to VI—26; Carlisle Jc., VI—24 to VII—4; on flowers.

luteicornis Fab.—In all localities on flowers; common.

bicolor Swed.—Carlisle Jc., VI—24 to VII—9; Inglenook, VI—11 to VII—18, taken mostly on wild rose flowers, not rare.

TYPOCERUS Lec.

lunatus Fab.—Carlisle Jc., VI—27—08, on Jersey tea blossoms.

velutinus Oliv.—In all localities on flowers; common.

lugubris Say.—In all localities on flowers; not rare.

LEPTURA Serv.

emarginata Fab.—Highspire, VIII—31—10, flying.

subhumata Rand.—Inglenook, VI—26—10, on dead hemlock.

lineola Say.—In all localities on flowers; common.

nitens Forst.—In all localities on chestnut and flowers; common.

cordifera Oliv.—Carlisle Jc., VI—24—10; Highspire, VII—27—07; Inglenook, VI—25—11; Heckton Mills, VII—4—09; on flowers.

rubrica Say.—In all localities on flowers; common.

vagans Oliv.—Carlisle Jc., VI—24 to VII—4, on flowers; Harrisburg, reared from hemlock.

proxima Say.—Inglenook, V—26 to VI—21; Linglestown, VI—6—09; Perdix, VII—1—10; not rare on flowers.

biforis Newm.—Carlisle Jc., VI—29—10, on chestnut; Inglenook, VI—20—09; Rockville, VII—4—08.

octonotata Say.—Inglenook, V—28 to VI—24; Linglestown, VI—6—09; on flowers.

vittata Germ.—In all localities on flowers; common.

pubera Say.—Inglenook, V—26—11, VI—20—09; on flowers.

ruficollis Say.—Carlisle Jc., VI—22—09, on flowers.

vibex Newm.—Inglenook, VI—20—10, V—28—11; on flowers.

aurata Horn—Carlisle Jc., VI—22—09; on flowers.

mutabilis Newm.—Inglenook, V—26 to VI—17; Perdix, V—27 to VI—1; Linglestown, VI—6—09; on flowers.

CYRTINUS Lec.

pygmaeus Hald.—Carlisle Jc., VI—22—09, sweeping.

PSENOCERUS Lec.

supernotatus Say.—Camphill, V—31—09; reared in numbers from climbing bitter sweet collected in various localities.

MONOHAMMUS Serv.

titillator Fab.—Inglenook, V—28—11; Harrisburg, VII—18—10. VII—22—09.

scutellatus Say.—Harrisburg, V—27—07, on street in city.

notatus Dru.—Highspire, VII—18—11, VII—30—10; Perdix, VI—1—11; Harrisburg, VII—24—08, at arc light (Walton).

DORCASCHEMA Lec.

wildii Uhler—Harrisburg, VI—26—09, on mulberry tree (Champlain).

alternatum Say.—Harrisburg, VI—12 to VII—6, on mulberry tree.

nigrum Say.—Highspire, VI—6—09; Eberlys Mill, VI—9—09; Harrisburg, VI—4—11; New Cumberland, reared from hickory.

HETOEMIS Hald.

cinerea Oliv.—Harrisburg, common on Mulberry; New Cumberland, reared from hickory.

GOES Lec.

pulchra Hald.—Harrisburg, VI—14—11, on hickory.

pulverulenta Hald.—Harrisburg, reared from dead elm.

ACANTHODERES Serv.

quadrigibbus Say.—Perdix, VI—18—11; Inglenook, VI—20—09.

decipiens Hald.—Harrisburg, VII—6—08, reared from cherry; Enola, VII—5—09.

LEPTOSTYLUS Lec.

parvus Lec.—Rockville, reared from climbing bitter-sweet.

macula Say.—In all localities; not rare.

LIOPUS Serv.

variegatus Hald.—Harrisburg, VI—24—07, at arc light; Lemoyne, reared from hackberry; Rockville, reared from climbing bitter-sweet; Harrisburg, reared from Virginia creeper.

alpha Say—In all localities on sumac; common.

DECTES Lec.

spinosus Say—In all localities on rag-weed; common.

LEPTURGES Bates.

symmetricus Hald.—Harrisburg, reared from hickory; Lemoyne, reared from walnut.

signatus Lec.—Highspire, VI—26—08, on hickory; Lemoyne, reared from hackberry; Rockville, reared from climbing bitter-sweet.

querci Fitch—Highspire, VII—13—08; Harrisburg, VI—2—11; Rockville, reared from climbing bitter-sweet.

facetus Say—Highspire, VII—13—07, beating.

HYPERPLATYS Bates.

aspersus Say.—Highspire, VII—2—09, on cherry tree; Harrisburg, VI—21—08.

maculatus Hald.—Harrisburg, V—19—09; Highspire, V—19—09, VI—22—07, on oak; New Cumberland, V—30—09.

GRAPHISURUS Kirby.

fasciatus DeG.—Common about Harrisburg on hickory, oak and beech.

ACANTHOCINUS Steph.

obsoletus Oliv.—Harrisburg, VII—6—08.

HOPLOSIA Muls.

nubila Lec.—Eberlys Mill, V—30—08 (Champlain.)

ECYRUS Lec.

dasycerus Say—Harrisburg, VII—4—09; Inglenook, VI—9—11.

EUPOGONIUS Lec.

vestitus Say—Highspire, reared from oak; Rockville, reared from climbing bitter-sweet; Harrisburg, reared from Virginia creeper.

subarmatus Lec.—Harrisburg, VI—27—08 on mulberry. Rockville, reared from climbing bitter sweet.

HIPPOPSIS Serv.

lemniscata Fab.—In all localities, collected by sweeping.

SAPERDA Fab.

calcarata Say.—Harrisburg, VII—10—07 at arc light (Walton).

candida Fab.— Inglenook, V—26—11; Perdix, VI—10—11; Highspire, VI—27—10; common on apple.

vestita Say—Harrisburg, VI—1 to VI—11 on linden.

discoidea Fab.—Harrisburg, VI—2 to VIII—19, only females taken at night, ovipositing in dying hickory trees, both sexes taken by beating during the day time. Reared from elm bark and hickory.

tridentata Oliv.—Harrisburg, V—7—10, VII—14—11; New Cumberland, reared from elm bark.

imitans Jout.— Rockville, V—20—10 (Walton); Harrisburg, VI—1 to VI—7 on linden and hickory.

lateralis Fab.—In all localities on hickory shoots; common.

puncticollis Say—Harrisburg, reared from Virginia creeper.

OBEREA Muls.

bimaculata Oliv.—In all localities on blackberry, common.

var. *tripunctata* Fab.—In all localities; common.

var. *basalis* Lec.—In all localities; common.

var. *affinis* Harr.—In all localities; common.

ocellata Hald.—Carlisle Jc., VII—4—08 on sumac; Heckton Mills, VI—22—10; Harrisburg, VI—11—10, VI—22—10.

tripunctata Swed.—In all localities; common.

var. *myops* Hald.—Heckton Mills, VI—25—08 flying; Inglenook, VI—21—10; Brandtsville, VI—14—10.

var. *mandarina* Fab.—In all localities; common.

gracilis Fab.—Carlisle Jc., VI—24—10; Heckton Mills, VI—21—09.

ruficollis Fab.— In all localities on sumac; not rare.

TETROPS Steph.

jucunda Lec.—Inglenook, VI—21—10 flying.

TETRAOPES Serv.

canteriator Drap.— Rockville, VII—29—06 on milk-weed.

tetraophthalmus Forst.—In all localities on milk-weed.

DYSPHAGA Lec.

tenuipes Hald.—Harrisburg, reared from beech twigs. Found in the pupa stage during winter.

Nezara viridula Linné, an Hemipteron new to the Northeastern United States.

By J. R. de la Torre Bueno, White Plains, New York.

Nezara viridula was one of the species included by Linné in his comprehensive genus *Cimex,* in the tenth edition of the great *Systema Naturae.* Owing to its variable nature and world-wide distribution it has been redescribed under no less than twenty-one different specific names cited by Distant in the first volume of the Hemiptera part of the *Biologia Centrali-Americana.* It is recorded from the whole of Europe, except the extreme North, Asia, Africa, Malaysia, Australia, New Zealand, South America, at least in the north, Central America and enters into the United States at the south, being found in Texas and Florida; the former mentioned by Stal and the latter by Van Duzee.

It has been my good fortune to come into possession of a specimen taken in a greenhouse in Brooklyn, on December 10, 1911. So far as can be ascertained, this is the first authentic

record of this species from so high a latitude in North America. It is in all likelihood an adventitious visitor, very probably imported in nursery stock from Europe, either as an egg or a nymph, or else possibly brought from Florida. The specimen is quite typical, and varies no more than in the usual degree from the more clearly marked individuals that I have seen. It lacks the 3 or 5 white points at the base of the scutellum along the edge of the pronotum, although there are indistinct smooth concolorous spots where they are usually to be found.

It might seem that there is no reason why this form should not be able to establish itself here, as it is quite at home in Germany and Russia, where certainly the winters are no warmer than in the United States. We therefore have in the North Atlantic States three species of *Nezara* to look out for, namely *Nezara hilaris* Say, *pennsylvanica* De G. and possibly *viridula* Linné. They may be separated as follows:

1 (2). Osteolar canal short, truncated, scarcely extending in a ruga. (S. g. *Nezara* A. & S.)

N. viridula Linné.

2 (1). Osteolar canal extending in a long narrowing ruga.

(S. g. *Acrosternum* Lieb.)

3 (4). Anterior sides of pronotum rounded; rostrum scarcely reaching the middle coxae; species broad oral.

N. (A.) *pennsylvanica* DeGeer.

4 (3). Anterior sides of pronotum straight; rostrum reaching hind coxae; species elongate oval.

N. (A.) *hilaris* Say.

In addition to these characters, *N. viridula* has a black dot at each basal angle of the scutellum, and the 2d and 3d antennae joints subequal, while in *hilaris* the dot is absent and the second joint is slightly longer than the 3d. *N. pennsylvanica* in addition to the characters given has broad head slightly blunt and incised in the middle, characters absent in the other two. *Viridula* is a duller insect; the other two more polished.

N. viridula is recorded as feeding on orange, *Celtis*, mulberry, rice, sugar-cane, cotton, maize, potato and *Gynandropsis pentaphyllum; hilaris* also feeds on orange, cotton, bass-wood, trumpet-creeper, cowpeas and tomatoes, all these according to

Kirkaldy. I have secured *hilaris* abundantly on golden rod, and have beaten it from wild cherry. Of course, it does not necessarily follow that these are the food plants. Of *N. pennsylvanica* nothing appears to be known.

In connection with this finding of a European species thus far North, I venture to comment on the record of *Pyrrhocoris apterus* from New Jersey. If the fact be taken into consideration that it was found not far from the landing place of European vessels, the explanation of its presence there is simple. What more natural than that a few ova, or even hibernating adults, may have been brought over in hay or straw, which, thrown overboard, drifted to a favorable location and breeding ensued. It would be interesting to ascertain if the bug has succeeded in establishing itself in the locality of its capture, a thing possible to any of our enthusiastic New Jersey friends.

A new Chalcidid from Guatemala (Hymen.).

By T. D. A. Cockerell, University of Colorado, Boulder, Colo.

Although Mrs. Cockerell brought home a large number of bees and wasps from Guatemala, she obtained only a single species of Chalcididæ, but this a very remarkable form, with the abdomen greatly produced. When I undertook to determine the genus with the aid of Ashmead's tables, I failed to place it; it clearly belonged to the Smicrini, but according to the Ashmeadian system, the genus appeared to be new. I prepared a description, and sent the type to the National Museum. Immediately after doing this, I received a specimen from Mr. J. Rodriguez, of Guatemala City, with the statement that he had raised a number from a lepidopteron, and had sent some to London, where they were said to belong to a new species of *Conura*. I was satisfied that the insect could not go in *Conura*, which is not one of the Smicrini at all, and Mr. J. C. Crawford is entirely of the same opinion. Mr. Crawford writes, however, that he would place the insect in *Eustypiura* Ashm., with which it agrees, except for the fact that

the basal member of the series of teeth on the hind femora is not enlarged. In Mr. Crawford's opinion, this is not more than a specific character. Mr. Crawford has also kindly ascertained that it is different from the described species of *Eustypiura,* and also has kindly searched Cameron (Biologia Cent. Am.) and Cresson to see if it might have been described under *Smicra* or *Spilochalcis,* but without result. It seems certain that it is new, and I venture to call it after Mr. Rodriguez, who has collected so many new insects in Guatemala.

Eustypiura rodriguezi sp. n.

♀.—Runs in Ashmead's tables (Classif. Chalcid Flies), p. 251-252, to 16, and runs out because the hind femora have 12 small teeth. Antennæ 13-jointed, (last two joints short), inserted about level with upper end of lower third of eye; head broad, eyes extremely prominent; clypeus extremely small; front depressed in middle but with a slender median carina on lower half; ocelli large and prominent, in a low triangle; scape long; prothorax large, with a vertical transparent keel on each side anteriorly; thorax rugose, middle of mesothorax with transverse ridges; parapsidal grooves entire, deep; scutellum large, briefly and obtusely pointed posteriorly, with on each side a hyaline transverse keel; pleura with a broad transversely ridged groove; metathorax posteriorly with four small teeth on each side; wings large, hairy, postmarginal vein long; anterior and middle legs slender; middle tibia with one short but well-formed spur; hind coxæ extremely long, about as long as their femora, with a small transverse projection above near end; hind femora much swollen though not subglobose, with 12 small black-tipped teeth on lower edge, but no large tooth; hind tibiæ arcuate, sharply pointed at end; abdomen with a very short petiole-joint, deeper than long; remaining part elongate, compressed, with a very long sparsely hairy ovipositor-sheath, from which the ovipositor projects for a short distance.

Length about 11½ mm., of which nearly 9 is abdomen; head and thorax lemon-yellow marked with black; eyes reddish; face below antennæ all yellow, above with a thick rather H-shaped black mark; vertex and cheeks yellow, occiput black; scape yellow in front; flagellum reddish, infuscated above; thorax with the sutures broadly black, the prothorax with a median dark mark and one on each side; the mesothorax dark with a large yellow V, broken at apex (posteriorly) and a yellow C on each side (marginal); scutellum with a black band down middle; metathorax mainly black, with a pair of large yellow marks; wings slightly stained with yellow, dusky gray apically, nervures testaceous; legs yellow suffused with reddish, hind femora with about the basal two-thirds black on inner side; abdomen yellow, the segments with rather poorly defined broad ferruginous bands; tip of ovipositor black.

Hab.—Guatemala City, Guatemala (*W. P. Cockerell*; *J. Rodriguez*).

A new Tetropium, two new Bruchides, with brief notes on other Coleoptera.

By H. C. Fall, Pasadena, California.

The following undescribed and very distinct species of *Tetropium* has recently been sent me by Mr. Ralph Hopping of the Forestry Service in the Sequoia National Park of California, with the statement that it is very destructive to both white and red fir (*Abies concolor* and *A. magnifica.*) Mr. Hopping requests that it be given a name in order that he may better refer to it in a forthcoming report.

Tetropium abietis n. sp.

Dark brown varying to pale brown, but concolorous throughout. Head and prothorax shining and not densely pubescent, the former numerously simply punctate with distinct median sulcus, the latter quite strongly granulate punctate, and with a strongly marked suboval impression, which is narrowly smooth and slightly elevated at middle posteriorly. Elytra obviously wider than the prothorax, parallel or slightly narrowed posteriorly, with the usual fine and short appressed pubescence; luster dull, the discal raised lines distinct but fine; sculpture exceedingly fine, subgranulose or asperate punctate. Beneath shining, finely punctate, and with longer sparser pubescence. Length, 13—17 mm.; width, 3.5—4.5 mm.

Male: Antennae about five-sixths as long as the body, slender, all joints linear or nearly so, second slightly gradually wider apically, twice as long as wide; third nearly or quite twice as long as the second and more than four times as long as wide. Prothorax varying from distinctly transverse to barely perceptibly so, subangularly rounded at or a little in advance of the middle; femora stout; pygidium obliquely narrowed behind, the apex rather broadly truncate.

Female: Antennæ scarcely longer than half the body, a little more slender than in the male but similarly formed; prothorax with sides more evenly rounded; femora less stout; pygidium with apex broadly evenly rounded in nearly circular arc.

Described from a series of a dozen specimens taken at Huckleberry Meadow, Fresno Co., California, all bearing date July 19, 1910. This is the most strongly characterized *Tetropium* in our fauna, and at once distinguished from all others by its granulose sculpture and the strong oval prothorac impression, the latter somewhat suggestive of *Nothorina.*

Bruchus julianus Horn.

This species was described in 1894 from San Julio and San Ignacio, Texas. Later, larger specimens from Brownsville were held to be identical and so distributed, and upon these

my conception of the species was based. Mr. Wenzel now announces—*Ent. News,* 1912, p. 140—that a series taken recently by H. A. Wenzel in Western Texas are typical *julianus* and quite distinct from the Brownsville species. Specimens sent to me by Mr. Wenzel prove to be my recently described *ochreolineatus,* which name therefore falls into synonymy. This leaves the big Brownsville species without a name, and I would propose for it the specific name

Bruchus major n. sp.

The two species are much alike in structure and markings, but the ochreous lines of pubescence on the elytra of the smaller species are more conspicuous, the second antennal joint is relatively shorter as compared with the third, and the number of blackish joints of the antennæ is two or three greater than in *major. Julianus,* according to Mr. Wenzel, is always found on a low shrub near the ground, while *major* breeds abundantly in the seed pods of the tree *Acacia flexicaulis.*

The two following species were represented in my collection at the time of my recently published tables of *Bruchus.** The first was held back thinking it might possibly have been described from Cuba, and the second was known to me only by a unique specimen. Recently Mr. Schwarz has seen the Florida specimens and pronounced them different from anything known to him from either Cuba or Mexico; and of the second I have just received additional specimens from Dr. Blaisdell.

Bruchus depressus n. sp.

Form strongly depressed, black, shining, lateral half of elytra red, varying through the reduction of the red area to entirely black; antennæ black, basal four or five joints pale; legs entirely red, or with the hind thighs blackish at extreme base; pubescence thin, short and inconspicuous, ochreo-cinereous in color. Antennæ moderately incrassate; fifth joint as long as wide, following moderately transverse. Eyes separated by about their own width as viewed from the front; head finely closely punctate; front feebly obtusely carinate. Prothorax subconical, wider than long, impressed before the scutellum, rather coarsely and closely punctate with intermixed finer punctures.

Elytra as long as wide; sides parallel and broadly evenly arcuate, depressed along the suture; striae rather strong and strongly punctate

* Trans. Am. Ent. Soc. XXXVI, 1910, p. 160.

basally, intervals subrugose and each with a somewhat irregular and indistinct series of coarser punctures. Pygidium oblique, rather coarsely and closely but not deeply punctured. Hind thighs armed with a single long acute tooth on the inner margin; terminal spur of hind tibiæ very short, not longer than the other marginal denticles. Length, 2—2.2 mm.; Withdth, 1.2—1.35 mm.

Florida (Orlando?). Three examples bearing date March 14, 1894, collected and given me by Mr. Frank S. Daggett. This species belongs to Horn's Group V, and in my recently published table may best follow *discopterus,* differing in its even more depressed form, more shining surface, dark antennae and differences in elytral coloration.

Bruchus brunneostictus n. sp.

Form of *pauperculus, pullus* and allies, and agreeing in all respects with *pullus* except as follows: Size much larger, the cinereous pubescence denser, the livid spots contrasting more strongly. In fully maculate specimens the spots are arranged in three transverse series on the elytra. Those of the apical series seem most likely to disappear, then the basal ones, and in one example there remains only the sublateral median spot external to the pale line on the third interspace, Length, 2.35—2.9 mm.

California. Alhambra Valley, Contra Costa Co. (Blaisdell), type. Santa Clara Co. (Baker.) This is possibly only a large and finely developed race of *pullus,* but I have seen no intermediates and it certainly seems worthy of a name.

Anillus.

In Blatchley's *Colcoptera of Indiana,* page 79, the author records the taking of two specimens of an *Anillus* identified by him as *A. fortis* Horn, from beneath stones on a wooded slope near Wyandotte Cave in the extreme southern part of the state. On the 15th of July, 1910, several specimens of *Anillus* were taken by Mr. Blatchley and the writer under precisely similar conditions near the town of Mitchell, Indiana, about one hundred miles south of Indianapolis. These, as we expected, proved to be identical with the Wyandotte examples. On returning to California and comparing my captures with specimens of *fortis* from North Carolina, it became evident at once that the Indiana species was something else. On investigation it was found to agree well with the description of *A. affabilis* Brues* from Austin, Texas, and a recent direct comparison with Mr. Brues' types shows

* Am. Naturalist XXXVI, p. 366.

that the two forms are too close to separate with safety. Mr. Brues has very generously placed in my collection one of the three specimens from which his description was drawn. This specimen is evidently of narrower form than any of the Indiana ones but, if my memory serves me, it is also more slender than either of his two remaining types; the difference therefore is likely to be sexual or possibly merely individual. Aside from it, there is scarcely anything to distinguish the Indiana specimens from the Texan ones.

Hyperaspis wolcotti Nunenmacher, Ent. News, 1911, p. 73.

This is a *Hyperaspidius*. A series sent me by Mr. Wolcott shows great variation in color. The species seems to be distinct from any previously described *Hyperaspidius,* but of this I am not entirely sure.

Lytta (Cantharis) nunenmacheri Wellman, Ent. News, 1912, p. 36.

Typical specimens kindly sent me by Mr. Nunenmacher show that this is precisely *Cantharis incommoda* Horn. No reference is made by the author to the important sexual characters, a knowledge of which is necessary in order to place the species in our present tables. The comparison with *blaisdelli* is apropos for no other reason than that the two species occur in the same region, since they belong to two different sections of the genus.

Lytta arborea Wellm. ibid, p. 34.

A specimen of this from Mr. Nunenmacher, who collected the type series, indicates a species closely allied to *stygica*. It is smaller and more slender than any specimen of *stygica* in my collection, but otherwise possesses scarcely anything in the way of definite characters. I cannot believe that the occurrence of the specimens on trees has any special significance. Any species of *Cantharis* is likely to, and many certainly do, climb to considerable heights on plants and bushes

Lytta hoppingi Wellm. ibid p. 35.

This species should be placed near *lugens* in our tables. It is structurally quite similar, but is very distinct and at once recognizable by the color, and the very narrow, shining, sparsely punctured thorax. I owe a good series to the kindness of Mr. Hopping.

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

TO CONTRIBUTORS.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, four weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form and without covers, will be given free, when they are wanted; if more than twenty-five copies are desired, this should be stated on the MS. The receipt of all papers will be acknowledged. Proof will be sent to authors for correction only when specially requested.—Ed.

PHILADELPHIA, PA., JULY, 1912.

With the present number of the NEWS our discussion on priority in nomenclature closes for at least two calendar months. Whether it be reopened depends on future events and our contributors. Elsewhere in this issue we give the results of the vote of North American entomologists on this question. The results throughout the world, as at present known to us, are:

	For strict Priority	Against strict Priority
Scandinavian Zoologists	2	120
German Zoologists	11	115
American Entomologists	95	191
Total	108	426

So far as the ballot instigated by the NEWS is concerned, we believed it was desirable to determine whether strict priority or the preservation of commonly used names was approved by the majority of working entomologists. When this is decided, the ways and means of carrying the decision into effect can be devised.

Some of the views expressed in the course of the discussions in our previous issues lead us to remark that there are many ways of selecting *nomina conservanda*. Just as a certain edition of Linnaeus's *Systema Naturae* has been accepted as a starting point in our nomenclature, so a catalogue of Coleoptera of 186— or a check list of Orthoptera of 190—, approved by the Nomenclatorial Commissions of Entomological and Zoological Congresses, can be made final standards for the nomenclature of those groups back of which we shall not go. Conserved names are even more for the present and the future than for the past, and the standard adopted for any group may, or may not, have been prepared on the basis of strict priority.

No numbers of the NEWS are issued for August and September.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

STRICT PRIORITY IN NOMENCLATURE—OR NOT?—I am in favor of protecting the most important and generally used names against changes, because I believe that this method would greatly lighten the labor of the economic entomologist. The waste labor involved in looking up nomenclature for the species the economic entomologist desires to discuss is a useless tax on his time. Of course, when the same name is in use for two species or when the name is for some other reason unfit, changes should be made, but even then these changes should be made by a representative board and not by the isolated taxonomist.—T. J. HEADLEE.

STRICT PRIORITY IN NOMENCLATURE—OR NOT?—I write as an upholder of the Code, though I cannot understand all the commission's methods and I am much interested in reading your Editorial in the May number of this magazine. I feel that as civilized beings, we are almost bound to accept and work under a code of laws; therefore, I work under the International Code and hope to get it altered and improved where experience shows it is necessary.

You, Mr. Editor, say, "that the Law of Priority has not given the stability it was expected to give." For my part, I did not expect stability *in my generation;* it is too much to expect. We shall not get

stability until all the genera and species of the early authors are monographed by specialists, but *the law* is a means to an end, and it is working slowly but surely to that end; the real question is this: which is the best scientific basis to adopt, the principle of *Nomina conservanda* or the Law of Priority?

For general zoologists, especially perhaps professional zoologists and biologists, no doubt the former would be the more convenient. A short time ago one of the most eminent entomologists in England said to me, "of course Passer domesticus will always be Passer domesticus to me." He was not an ornithologist, and naturally the names we have known species by for many years remain remembered, simply because we are not working at that group. That gentleman, however, is a strict "Priorist" and it is quite impossible for a systemátist and a specialist to be otherwise. When we monograph a group, we must look up all the old literature on the subject and find out if they had previously described any of the species we are working at. This is not antiquarianism—it is scientific investigation. If they had I for one should feel obliged to adopt the oldest name up to the 10th edition of the Systema Naturae (1758). By this process we gradually bring Kosmos out of Chaos, to use an extreme phrase, and we are working to put the next generation on solid ground. I think Mr. Caudell is largely right when he says that "priority is certain of more unanimous consent," for I feel sure this will be so among systematists and specialists.

I cannot, however, understand for what reason the commission sent round a note of inquiry about Meigen's names; they appear to have forgotten their own laws. The adoption of that list of names is absolutely contrary to article 25 b; it breaks the very first law of "The Law of Priority" which reads: "The valid name of a genus or species can be only that name under which it was first designated on the condition that the author has applied the principles of binary nomenclature."

Meigen did not apply the principles of binary nomenclature, therefore, the whole of that list published in 1800 is invalid and cannot be adopted—if three years later he adopts some of those genera and indicates their species as well, then, but only then, does he comply with the code, and therefore the names date from 1803 not 1800, and as a consequence some of Latreille's names dating from 1802 have precedence over Meigen's, which can only date from the time when he conformed to the principles of binary nomenclature. My view of this is, that the commission cannot break their own laws and if they want to rule in favor of Meigen, they must amend article 25; this I sincerely trust they will not do. Of course the commission may say that they have only ruled in favor of those names where they are found valid

under the code, but my point is that the whole of that list is absolutely invalid so far as the date 1800 is concerned, and 1800 cannot be a date that gives precedence.

Some of the laws of the code lack definiteness and I am glad to think that the subject is to be brought before the Oxford Congress, for we must remember that the number of species entomologists have to deal with is much greater than that of all the other branches of Zoology combined, and I trust that one of the results of that congress will be the establishment of an Entomological Council for nomenclature, who should carefully revise the present code and bring it up to present needs so far as we are concerned, after which the International Commission should be approached so as to try and bring the two bodies into some working agreement with the object of bringing out an amended code binding on all zoologists who are not a "law unto themselves."—G. T. Bethune-Baker, Edgbaston, England.

Americans at the International Congress of Entomology.—In addition to those mentioned on page 178 of the April News, we are informed that the following will attend the meeting at Oxford, August 5-10, 1912; Prof. S. A. Forbes, Urbana, Illinois; Dr. C. Gordon Hewitt, Dominion Entomologist, Ottawa; Dr. A. Fenyes, Pasadena, California; Mr. Charles T. Ramsden, Guantanamo, Cuba; Prof. G. C. Crampton, Amherst, Massachusetts; Dr. L. O. Howard, Washington; Prof. W. M. Wheeler, Harvard University; and Prof. J. G. Needham, Cornell University.

Food Plant of Dysdercus mimus Say.—The genus *Dysdercus* is well known for its attacks on cotton and other malvaceous plants, but although *D. mimus* is widely distributed, I do not find any reference to its food plant in the literature I have examined, including Mr. Ballou's apparently complete review of the subject in the West Indian Bulletin, 1906. It may therefore be worth while to report that in February of this year my wife found both young and adults of *D. mimus* at Gualan, Guatemala, living on *Iresine paniculata* (L.), one of the Amaranthaceae. The insects were kindly determined by Dr. Van Duzee, and the plant by Captain Donnell Smith.—T. D. A. Cockerell, Boulder, Colo.

Entomological Investigation of Okefenokee Swamp.—A party left Cornell University, May 25th, for the purpose of investigating the biology of the Okefenokee Swamp in southeastern Georgia. The fauna and flora of this extensive and in many respects unique swamp have heretofore almost entirely escaped the attention of naturalists. The eastern part of the swamp consists of vast inundated "prairies," while on the western side there are extensive heavily

wooded islands. Much of the swamp is a sphagnum bog, whence the Indian name, originally spelled "Ouaquaphenogaw," meaning "trembling-earth."

The personnel of the party consists of Professors C. R. Crosby and J. Chester Bradley, Dr. A. H. Wright, Messrs. M. D. Funkhouser, M. D. Leonard, A. R. Cahn and S. C. Bishop of Cornell University, and E. Lee Worsham, State Entomologist of Georgia. Dr. Wright and Mr. Cahn will give their attention to the vertebrates, and Mr. Cahn also to collecting fleas and Mallophaga. An extensive series of blood smears will be made, for the detection of blood-parasites. The other members of the party will devote their attention to insects, especial attention being given to aquatic forms. The party expect to remain in the swamp from eight to ten weeks.

Collecting in Tropical America.—As foreshadowed in the News for November, 1911, page 423, Messrs. A. F. Porter and John M. Geddes have enjoyed about eight months collecting in the tropics. "We touched at St. Thomas, St. Croix, St. Kitts, Antigua, Barbuda, Guadeloupe, Dominica, Martinique, St. Lucia, Barbados and then down to the main land of South America in British Guiana. We collected usually two weeks in each of the islands and secured some nice things. As a whole the islands proved very unproductive in Lepidoptera, but when we got out into the bush in British Guiana, we were indeed surprised at the great numbers of moths taken at night by light. We used an auto headlight and several lamps and would secure from 50 to 300 specimens on a single evening, or rather all night, for we usually worked all night long. Butterflies were not so plentiful, but the difference in species was very gratifying. I had no sickness of any kind during my entire trip and never spent such an enjoyable outing and collecting trip before. It is wonderful the different number of species one will take on a good night at light. On one of my best nights, I, myself, took 304 specimens and out of that number 267 were different species and besides Mr. Geddes secured about the same number of specimens, but I did not look over the material to see how many new species he could add to my list of different species. In all I think we took probably 10,000 specimens during our trip and if one is looking for exciting and interesting collecting, let him go to British Guiana."—A. F. Porter.

Scarcity of Early Insects.—Insect life here this year is wonderfully scarce. I have a large trap in which I have taken many hundreds of insects that come to light. I have set it thirteen evenings in April and three times in May and have captured absolutely nothing. To-day it is fairly warm and I have taken a score or so of wild bees and a

lonesome *Calliphora vomitoria* cavorting on my window pane. I noticed also *Pyrameis atalanta* in my garden. Before to-day there has been nothing. I have thought that a winter of changeable temperature, when we get alternate thawing and freezing, was specially destructive to insects, but maybe so severe a winter as we have had, followed by so late a spring, has been equally unfortunate for them.—O. S. Westcott, Oak Park, Illinois. May 3, 1912.

One Reason for the Change of Names.—At this season when so much of the News is given to nomenclatorial matters it may not be out of place to call attention to some reasons for the change of names. One of the chief reasons is, the obscure ways in which many names are proposed.

As an example of the way names should not be proposed, one may look on page 228 (15th line from the bottom of the page) and page 232 (19th line from the top of the page) of May, 1912, Entomological News. Here two new generic names are proposed. They are not set off any more than any old specific name would be; they are not in the "contents"; and they stand a fine chance of being overlooked until some one has proposed another name, when they may be recalled and the literature "upset" again, so those who favor *nomina conse vanda* will have another "example." Of course they may be in the index, but who reads indices for new names? It is to be hoped that those whose fault it was that these names appeared in such an obscure way will read this notice; and that they will see that new names are set off so they can easily be seen by catalogers or those interested. A number of changes, in the generic names of sawflies. were necessary because new names were proposed or new genera described in just such obscure ways.—S. A. Rohwer.

[Mr. Rohwer's suggestions, in so far as they refer to the editorial side of the matter, will be adopted, although we can not excuse him from looking into indexes.—Ed.]

An Experiment on the Oviposition of a Hymenopterous Egg Parasite.*—While experimenting with the Hymenopterous egg parasite, *Trichogramma minutum* (*pretiosa*) Riley, during the summer of 1911, I exhausted my supply of the moth eggs which this parasite attacks, and was forced to examine many plants in the field for eggs to serve as hosts for the adult parasites which I had on hand. For some reason, however, there was a temporary scarcity of moths, and no eggs were found. In searching for *Heliothis* eggs on okra plants, I noticed the partially solidified globules of juice which had been exuded from the fruits and stems, and the thought occurred to me to

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collect some of these globules and give them to the parasites as a substitute for their accustomed host eggs. The idea seemed so absurd, however, that only after a complete failure to obtain moth eggs was it put into execution.

Twenty of the juice globules were collected, some of them a little smaller, some a little larger than the eggs of the bollworm, *Heliothis obsoleta,* a favorite host of *Trichogramma.* These were placed in a small glass vial, and a female *Trichogramma* which had been in a tube with males of the same species was introduced. She quickly went to a globule and soon oviposited three times in it. There was a short interval between each two ovipositions. She then oviposited in each of four other globules. Then after running about for a few seconds she rested on the side of the vial. The vial being shaken slightly, she ran about again, got on a globule, but did not oviposit. In a few seconds she became motionless. The tube was slightly moved, and the parasite ran about but did not oviposit. She soon came to a resting position on the side of the vial, and was not observed to oviposit again.

The globules were observed carefully for several days, and, as may be expected, they all dried up without the emergence of any parasites.

The female of *Trichogramma* is usually represented as carefully inspecting the host egg to learn if it is suitable for oviposition, and I have often observed females walking over the eggs and touching them many times with the antennae, but it seems from these observations that the female is unable to ascertain whether the egg is suitable or not.

Unless it be admitted that the mature female is impelled to oviposit in anything like a moth egg which is at hand, it seems clear that she is unable to learn not only whether or not a host egg is already parasitized, unless it has turned black, but even whether it is of a suitable species or whether it is an egg at all. The parasite under consideration is known to have some forty-three hosts, and is supposed to oviposit in any soft-shelled egg, within certain limits as to species. The globules of okra juice were surrounded by a film formed by the exposure of the juice to the air, and were fairly good as an imitation of the egg of a Noctuid. It seems probable that *Trichogramma* oviposits in many unsuitable eggs, at least under conditions of scarcity of its usual hosts.

The reason for the careful examination of the egg by the female is a subject for further speculation. Possibly the examination serves merely to locate a suitable place for the insertion of the ovipositor.—T. E. Holloway, U. S. Bureau of Entomology, Audubon Park, New Orleans, La.

Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), excluding Arachnida and Myriapoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published, and are all dated the current year unless otherwise noted. This (*) following a record, denotes that the paper in question contains description of a new North American form.

For record of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington.

1—Proceedings, Academy of Natural Sciences of Philadelphia. **2**—Transactions, American Entomological Society, Philadelphia. **4**—The Canadian Entomologist. **5**—Psyche, Cambridge, Mass. **6**—Journal, New York Entomological Society. **7**—U. S. Department of Agriculture, Bureau of Entomology. **8**—The Entomologist's Monthly Magazine, London. **9**—The Entomologist, London. **10**—Nature, London. **11**—Annals and Magazine of Natural History, London. **19**—Horae Societatis Entomologiae Rossicae. **21**—The Entomologist's Record, London. **22**—Zoolgischer Anzeiger, Leipzig. **24**—Berliner Entomologische Zeitschrift. **25**—Bolletino, Musei di Zoologia ed Anatomia Comparata d. R. Universita di Torino. **35**—Annales, Societe Entomologique de Belgique. **45**—Deutsche Entomologische Zeitschrift. **47**—The Zoologist, London. **51**—Novitates Zoologicae, Tring, England. **56**—Mittheilungen, Schweizerischen entomologischen Gesellschaft, Schaffhausen. **84**—Entomologische Rundschau. **89**—Zoologische Jahrbucher, Jena. **94**—"Das Thierreich" herausgegeben von d. Deutschen zoologischen Gesellschaft, Berlin. **97**—Zeitschrift fur wissenschaftliche Zoologie, Leipzig. **123**—Bulletin, Wisconsin Natural History Society, Milwaukee. **128**—Proceedings, Linnean Society of New South Wales, Sidney. **129**—Annali, R. S. Superiore di agricoltura di Portici. **148**—New York Agricultural Experiment Station, Geneva. **166**—Internationale Entomologische Zeitschrift, Guben. **177**—Quarterly Journal of Microscopical Science, London. **180**—Annals, Entomological Society of America. **182**—Revue Russe d'Entomologie, St. Petersburg. **190**—Deutsche Entomologische Zeitschrift "Iris," Dresden. **191**—Natur, Munchen. **193**—Entomologische Blatter, Cassel. **214**—Naturwissenschaftliche Zeitschrift fur Forst- und Landwirtschaft, Stuttgart. **218**—Mikrokosmos, Zeitschrift fur die praktische Betatigung aller Naturfreunde, Stuttgart. **236**—Boletin, Sociedad Aragonesa de Ciencias Naturales, Zaragoza. **243**—Year-

book, Department of Agriculture, Washington, D. C. **254**—Archives de Parasitologie, Paris. **263**—Proceedings, Hawaiian Entomological Society, Honolulu. **277**—Victorian Naturalist, Melbourne. **285**—Nature-Study Review, Urbana, Illinois **315**—Memoires, Academie Royale de Belgique, Classe des Sciences, 2d ser., Brussels. **335**—Smithsonian Miscellaneous Collections. **344**—U. S. Department of Agriculture, Washington, D. C. **350**—Bulletin from the Laboratory of Natural History of the State University of Iowa, Iowa City. **368**—The Monthly Bulletin of the State Commission of Horticulture, Sacramento, Cal. **369**—Entomologische Mitteilungen, Berlin-Dahlen. **379**—Proceedings of the International Zoological Congress. **380**—Annual Report of the State Board of Horticulture, Denver. **381**—Experiment Station Record, Washington, D. C. **382**—Revue Zoologique Africaine, Bruxelles. **383**—Proceedings and Transactions of the Nova Scotian Institute of Science, Halifax. **384**—Archivio Zoologico Italiano, Napoli.

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